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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,822	04/09/2004	Hac-Kyoung Kim	61610134US	8493

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H.C. PARK & ASSOCIATES, PLC
8500 LEESBURG PIKE
SUITE 7500
VIENNA, VA 22182

EXAMINER

WANG, EUGENIA

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/820,822	Applicant(s) KIM ET AL.	
	Examiner Eugenia Wang	Art Unit 1745	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 7/23/07 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.

Continuation of 11. does NOT place the application in condition for allowance because:

As to the 112, first paragraph rejection to claims 2, 5, 8, 13, and 14, Applicant argues sufficient enablement exists because: (a) para 0023-0025 and 0028 describe the location and function of the sensor, (b) para 0029-0036-0037 and figs. 3-4 show the structure and operation, (c) the material of the pressure film is disclosed in para 0030 and 0036, and (d) that para 0032 and 0039 along with figs. 5-6 show the substantially linear relationship between the volume change of the sensor and the concentration of fuel within a certain concentration range.

Examiner respectfully disagrees and upholds her previous position. While the indicated portions in the argument broadly presents the relationship, it lacks reasonable description as to how pressure and volume is correlated to the concentration. (Applicant lists how volume and concentration are correlated, but not how pressure is correlated with the two, as para 0036 mentions.)

As to the 112, second paragraph rejection to claims 5 and 8, applicant argues that paragraph 0024 indicates the volume of the sensor depends on the concentration of the fuel and that the sensor detects a change in volume and converts it into an electrical signal, which is converted to the concentration value equivalent.

Examiner agrees with Applicant that this provides reasonable description, and the 112, second paragraph rejection with respect to claims 5 and 8 are withdrawn.

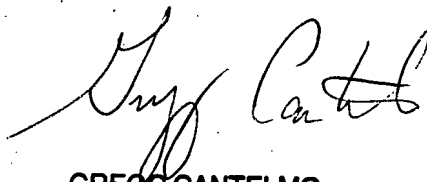
As to the 102 rejection (as applied to claim 1), Applicant argues that US 6303244 (Surampud et al.) does not teach a diluent storage which stores only a diluent that is a byproduct of the chemical reaction, since condensers [940] and [942] have both methanol and water passing through them.

Examiner respectfully disagrees. Although the condensers [940] and [942] have both methanol and water in them, the output from both condensers are provided from byproducts of the fuel cell and would be more dilute than the methanol in the methanol tank [900]. Although a mixture is present, the methanol/water composition that passes through the condensers is still a diluent of the byproduct of the chemical reaction.

As to the 103 rejection (as applied to claims 17 and 20) Applicant argues that there is no reason to combine US 6306285 (Narayanan et al.) and US 6890674 (Beckmann et al.). The reason Applicant uses is that Narayanan et al.'s NAFION sensor operates on the principle of electrochemical oxidation, while Beckmann et al.'s NAFION concentration sensor uses a material that expands.

Examiner respectfully disagrees and would like to clarify the position taken. Both sensors are made of the same material (even if prepared in slightly different manners) would thus still inherently function in a similar manner. Moreover, both sensors detect the same thing (concentration). In this manner, it would have been obvious for one of ordinary skill in the art to combine the teachings, to use one sort of a concentration sensor over another, even if the method of detecting is different.

Lastly, Examiner would like to note that although claims were submitted with the After Final, there were no changes made to the claims and is thus not considered an amendment.



GREGG CANTELMO
PRIMARY EXAMINER

25 July 2007